

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

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1. (currently amended) An image forming apparatus comprising:
a receiving unit receiving image data;
a detecting unit detecting a screen angle of an image pattern described on a document of
the image data;

a setup unit selecting from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and setting up the dither pattern; and

a printing unit reproducing a quasi-halftone using the dither pattern set up by said setup unit.

2 (previously presented). An image forming apparatus according to claim 1, further comprising a reading unit reading a document to obtain the image data.

3 (previously presented). An image forming apparatus according to claim 1, in which said detecting unit detects screen angles of image data for cyan, magenta and yellow colors, and said setup unit selects from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and sets up the dither pattern for each color.

4. (previously presented) An image forming apparatus according to claim 3, in which said detection unit further comprises a color conversion unit converting the image data into cyan, magenta, yellow and black image data, a resolution conversion unit converting the cyan, magenta, yellow and black image data into high resolution image data, and a storage unit storing the high resolution image data, wherein screen angles of image data for cyan, magenta and yellow color are detected based on the image data stored in said storage unit.

5 (previously presented). An image forming apparatus according to claim 1, in which said detecting unit has a plurality of detection patterns to compare the image data with the detection patterns, counts the numbers of image patterns that match with the detection patterns, and determines an angle of a detection pattern that provides a maximum matching count as the screen angle of the image data.

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6. (previously presented) An image forming apparatus according to claim 1, in which said detecting unit extracts an attention pixel from the image data, calculates average densities of peripheral pixels located in a plurality of directions relative to a direction perpendicular to the attention pixel, determines an angle that produces a maximum average density, and elects the determined angle as the screen angle of the image data.

7. (currently amended) An image reading apparatus comprising:
a reading unit reading an image data of a document;
a detection unit detecting a screen angle of ~~a document image~~ an image pattern described on a document based on the image data; and

a setup unit selecting from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and setting up the dither pattern.

8. (previously presented) An image reading apparatus according to claim 7, further comprises a data generating unit generating a print data in order to reproduce a quasi-half-tone using the dither pattern set up by said setup unit.

9. (previously presented) An image reading apparatus according to claim 7, in which said detecting unit detects screen angles of document images for cyan, magenta and yellow colors, and said setup unit selects from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and sets up the dither pattern for each color.

10. (previously presented) An image reading apparatus according to claim 9, in which said detection unit further comprises a color conversion unit converting the image data into cyan, magenta, yellow and black image data, a resolution conversion unit converting the cyan, magenta, yellow and black image data into high resolution image data, and a storage unit storing the high resolution image data, wherein screen angles of document images for cyan, magenta and yellow color are detected based on the image data stored in said storage unit.

B 11. (previously presented) An image reading apparatus according to claim 7, in which said detecting unit has a plurality of detection patterns to compare the image data with the detection patterns, counts the numbers of image patterns that match with the detection patterns, and determine an angle of a detection pattern that provides a maximum matching count as the screen angle of the document image.

12. (previously presented) An image reading apparatus according to claim 7, in which said detecting unit extracts an attention pixel from the image data, calculates average densities of peripheral pixels located in a plurality of directions relative to a direction perpendicular to the attention pixel, determines an angle that produces a maximum average density, and elects the determined angle as the screen angle of the document image.

13. (currently amended) A printer controller comprising:

a detection unit detecting a screen angle of ~~inputted image data~~ an image pattern described on a document;

a setup unit selecting from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and setting the dither pattern; and

a data generating unit generating a print data in order to reproduce a quasi-half-tone using the dither pattern set up by said setup unit.

14. (previously presented) A printer controller according to claim 13, in which said detecting unit detects screen angles of image data for cyan, magenta and yellow colors, and said setup unit selects from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and sets up the dither pattern for each color.

B 15. (previously presented) A printer controller according to claim 14, in which said detection unit further comprises a color conversion unit converting the image data into cyan, magenta, yellow and black image data, a resolution conversion unit converting the cyan, magenta, yellow and black image data into high resolution image data, and a storage unit storing the high resolution image data, wherein screen angles of the image data for cyan, magenta and yellow color are detected based on the image data stored in said storage unit.

16. (previously presented) A printer controller according to claim 13, in which said detecting unit has a plurality of detection patterns to compare the image data with the detection patterns, counts the numbers of image patterns that match with the detection patterns, and determines an angle of a detection pattern that provides a maximum matching count as the screen angle of the image data.

17. (previously presented) A printer controller according to claim 13, in which said detecting unit extracts an attention pixel from the image data, calculates average densities of peripheral pixels located in a plurality of directions relative to a direction perpendicular to the attention pixel, determines an angle that produces a maximum average density, and elects the determined angle as the screen angle of the image data.

18 (currently amended). An image forming system comprising:
a receiving apparatus for receiving image data;

a printer controller for detecting a screen angle of ~~the image data~~ an image pattern described on a document, selecting from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and setting the dither pattern; and

a printer for reproducing a quasi-half-tone using the dither pattern set up by said printer controller.

19 (previously presented). An image forming system according to claim 18, further comprising a reading apparatus for reading a document to obtain the image data.

20 (previously presented). An image forming system according to claim 18, in which said printer controller detects screen angles of image data for cyan, magenta and yellow colors, and selects from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and sets up the dither pattern for each color.

21 (previously presented). An image forming system according to claim 20, in which said printer controller further comprises a color conversion unit converting the image data into cyan, magenta, yellow and black image data, a resolution conversion unit converting the cyan, magenta, yellow and black image data into high resolution image data, and a storage unit storing the high resolution image data, wherein screen angles of the image data for cyan, magenta and yellow color are detected based on the image data stored in said storage unit.

22 (previously presented). An image forming system according to claim 18, in which said printer controller has a plurality of detection patterns to compare the image data with the detection patterns, counts the numbers of image patterns that match with the detection patterns, and determines an angle of a detection pattern that provides a maximum matching count as the screen angle of the image data.

23 (previously presented). An image forming system according to claim 18, in which

said printer controller extracts an attention pixel from the image data, calculates average densities of peripheral pixels located in a plurality of directions relative to a direction perpendicular to the attention pixel, determines an angle that produces a maximum average density, and elects the determined angle as the screen angle of the image data.

24 (currently amended). A record medium for storing a program readable and executable by a computer, said program comprising the steps of:

- (A) receiving image data;
- (B) detecting a screen angle of ~~the image data~~ an image pattern described on a document;
- (C) selecting from a plurality of dither patterns a dither pattern with a screen angle different from the detected screen angle and setting the dither pattern; and
- (D) reproducing a quasi-half-tone using the setup dither pattern.

25 (previously presented). A record medium according to claim 24, in which said program further comprises the steps of (E) reading a document to obtain the image data, and (F) transmitting the read image data.

26 (previously presented). A record medium according to claim 24, in which said step (B) of said program comprises (1) converting the image data into cyan, magenta, yellow and black image data, (2) converting said cyan, magenta, yellow and black image data into high resolution image data, (3) storing the high resolution image data, and (4) detecting screen angles of image data for cyan, magenta, and yellow colors based on the stored image data.

27 (previously presented). A record medium according to claim 24, in which said step (B) of said program comprises (1) comparing the image data with a plurality of detection patterns, (2) counting the number of image patterns that match with the detection patterns, (3) selecting a detection pattern that provides a maximum matching counts, and (4) determining an

angle of the selected detection pattern as the screen angle of the image data.

28 (previously presented). A record medium according to claim 24, in which said step (B) of said program comprises (1) extracting an attention pixel from the image data, (2) calculating average densities of peripheral pixels located in a plurality of directions relative to a direction perpendicular to the attention pixel, (3) determining an angle that produces a maximum average density, and (4) electing the determined angle as screen angle of the image data.

29 (previously presented). An image processing apparatus comprising:

a receiving unit receiving image data;

a detecting unit detecting a screen angle of the image data; and

a setup unit selecting, from a plurality of dither patterns, a dither pattern with a screen angle different from the detected screen angle and setting up the dither pattern.
